

CURRICULUM VITAE

NAME: Andrew W. Bergen, Ph.D.

PRESENT POSITION:

Staff Scientist
Core Genotyping Facility,
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EDUCATION (INCLUDING DATES AND DEGREES OBTAINED):

- 1984 B.A., Haverford College
1992 M.A., Johns Hopkins University
1996 Ph.D., George Washington University

RESEARCH TRAINING AND FELLOWSHIPS:

- 1988-91 NIH Pre-Doctoral Training Award, Johns Hopkins University
1989 Short Course in Medical and Experimental Mammalian Genetics,
Jackson Laboratory, Bar Harbor, Maine
1990-91 Teaching Assistantship, Johns Hopkins University
1993-96 Pre-Doctoral IRTA Fellowship, NIAAA, NIH
1996-97 Post-Doctoral IRTA Fellowship, NIAAA, NIH
1997-99 Cancer Genetics and Epidemiology Training Program Post-Doctoral
Fellowship

PROFESSIONAL APPOINTMENT:

- 1985-87 Research Technician, JHU SHPH, Baltimore, MD
- 1987-88 Research Associate, Cellmark Diagnostics, Germantown, MD
- 1999-01 Laboratory Director, VP, Biognosis U.S., Inc., Gaithersburg, MD
- 2002-Pres. Staff Scientist, CGF, ATC, NCI, Gaithersburg, MD

EDITORIAL REVIEWS:

Reviewer For:

American Journal of Human Genetics
Human Mutation
Biological Psychiatry
Cancer Research
Molecular Psychiatry
Pacific Symposium in Biocomputing
Avalanche and EpiInformatics Committees, DCEG, NCI

INVITED LECTURES (ORAL/POSTER PRESENTATIONS):

- 1989 E.P. Economou, A.W. Bergen and S.E. Antonarakis. "Novel DNA Polymorphic System: Variable poly A Tract 3' to Aly Repetitive Elements". Annual Meeting of the American Society of Human Genetics. Abstract no. 538.
- 1995 D. Goldman, J. Lappalainen, N. Ozaki, B. Nakhai, A.W. Bergen, U. Pesonen, M. Koulu, J. Long, C.Y. Wang, D.A. Nielson, M. Dean, L. Chang, F. Weight, M. Eggert, M. Virkkunen and M. Linnoila. "Natural Structural Variants of Four Human Serotonin Receptors and Relationship of 5HT2C to Alcoholism". Annual Meeting of the Research Society on Alcoholism. Abstract no. 419.
- 1994 A.W. Bergen, C.-Y. Wang, B. Nakhai and D. Goldman. "Mass Allele Detection (MAD) with matrix pooling, allele-specific amplification and electrochemiluminescence detection". Annual Meeting of the Research Society on Alcoholism. Abstract no. 418.
- 1996 "Haploid Genetics: mtDNA and the Y Chromosome", George Washington University, Washington, D.C.
- 1996 "RPS4Y Sequence Variation in Hominids and Humans: Accelerated Evolution of a Ribosomal Protein and Identification of an Asian/Native American Ancestral Paternal Lineage", Laboratory of Genomic Diversity,

FCRDC, NCI.

- 1995 A.W. Bergen, R. Kittles, R. Peterson, J. Long, M. Eggert, M. Virkkunen, M. Linnoila, D. Goldman. "The development of a Y chromosome STR panel, generation of haplotypes and association analysis within alcoholics with and without ASPD". Joint Scientific Meeting of the Research Society on Alcoholism and the International Society for Biomedical Research on Alcoholism. Abstract no. 390.
- 1996 R.A. Kittles, J.C. Long, A.W. Bergen, M. Virkkunen, M. Linnoila and D. Goldman. "Cladistic analysis of Finnish Y chromosome microsatellite haplotypes: utilization of evolutionary relationships for association studies". Annual Meeting of the American Society of Human Genetics. Abstract no.1031.
- 1996 A.W. Bergen, C.Y. Yang, K. Jefferson and D. Goldman. "RPS4Y and STR evolution on the Y chromosome: identification of a distinct paternal lineage within Asian and Amerindian populations". Annual Meeting of the American Society of Human Genetics. Abstract no. 666.
- 1997 "Cladistic Analysis of Y Chromosome Effects on Alcoholism and Related Personality Traits", American Society of Physical Anthropology Annual Meeting, Research Triangle Park, NC.
- 1997 "Y Chromosome Population Genetics", George Washington University, Washington, D.C.
- 1997 A.W. Bergen, J. Kokoszka, R. Aragon and D. Goldman. "A common, non-conservative amino acid variant in the mu opioid receptor N-terminal extracellular domain". Alcohol Clinical and Experimental Research, 23. Research Society on Alcoholism Annual Scientific Meeting. Abstract no. 666.
- 1997 A.W. Bergen, J. Kokoszka, J.C. Long, M. Linnoila and D. Goldman. "Human mu opioid receptor gene (OPRM1) variants and substance dependence". World Congress on Psychiatric Genetics. Abstract no. 216.
- 1998 "DNA Methods", DCEG Cancer Genetics Course.
- 1998 "Lung Cancer Epidemiology", George Washington University, Washington, D.C.
- 1998 J.F. Korczak, A.W. Bergen, A.M. Goldstein and K.A. Weissbecker. "A genomic screen for linkage of dichotomous and quantitative measures of alcoholism and smoking". 11th Genetic Analysis Workshop.

- 1998 "Evolution and polymorphism of the Macaca 1A serotonin receptor gene (Htrla)". NIH Research Festival.
- 1998 A.W. Bergen, L. Wilhelm, R. Aragon, J. Kokoszka, R. Kittles, J. Kidd, K. Kidd, W. Klitz, P. Hammond, L. Goldfarb, K. Smith, S. Park, S. Tsai, J.C. Long and D. Goldman. "Y chromosome short tandem repeat haplotypes reveal population affinities in Asian and Amerindian population samples". 48th Annual Meeting of the American Society of Human Genetics, Denver Colorado, Colorado.
- 1999 "Association Between Alcohol Dependence and 5-locus Haplotypes on Chromosome 11p15.5 in an American Indian Population", 49th Annual Meeting of the American Society of Human Genetics, San Francisco, CA.
- 1999 "Lung Cancer Epidemiology", George Washington University, Washington, D.C.
- 1999 "Linkage at Dopamine Receptor D4 to Alcohol Dependence in an American Indian Population". 22nd Annual Meeting of the Research Society on Alcoholism, Santa Barbara, CA.
- 2000 "Lung Cancer Epidemiology", George Washington University, Washington, D.C.
- 2001 "Tobacco Dependence Genetics", American Association for Cancer Research, New Orleans, LA.
- 2001 "Molecular Genetic Analysis of the Price Foundation Eating Disorder Datasets", Western Psychiatric Institute and Clinic, University of Pittsburgh Medical Center, Pittsburgh, PA.
- 2001 "Molecular Genetic Analysis of Behavioral Phenotypes", Karmanos Cancer Center, Detroit Medical Center, Wayne State University, Detroit, MI.
- 2001 "Candidate Gene Analysis in Anorexia Nervosa", Johns Hopkins Hospital, Baltimore, MD.
- 2001 "Psychiatric Disease Gene Discovery", Cambridge Healthtech Institute, Genomic Partnering: Emerging and Early-Stage Companies, San Francisco, CA.
- 2001 "Association of Anorexia Nervosa with the Serotonin 1D and Delta Opioid Receptor Loci", Eating Disorders Research Society Annual Meeting, Alburquerque, New Mexico, USA
- 2001 Molecular Genetic Analysis of the Price Foundation Eating Disorder

- Datasets”, Price Foundation Biennial Meeting, Albuquerque, New Mexico, USA.
- 2001 “Extending a Valuable Resource: Whole Genome Amplification”, Third Annual Meeting of the Cohort Consortium, Rockville, MD.
- 2002 “Lung Cancer Epidemiology”, George Washington University, Washington, DC.
- 2002 “Candidate Gene Analysis of Anorexia Nervosa”, Children’s Research Institute, National Children’s Medical Center, Washington, D.C.
- 2002 “Extending a Valuable Resource: Whole Genome Amplification”, Third Annual Meeting of the Cohort Consortium, Rockville, MD.
- 2002 “Dopamine D2 Polymorphisms and Anorexia Nervosa”, Eating Disorder Research Society Annual Meeting, Charlestown, SC.
- 2002 R. Welch, M. Yeager, S. Yadavalli, C. Glaser, S. Larson, B. Packer, E. Miller, M. Kiley, M. Burke, A. Crenshaw, A.W. Bergen and S.J. Chanock “Comparative analysis of high-throughput genotyping methods”. 3rd International Meeting on Single Nucleotide Polymorphism and Complex Genome Analysis. Reykjavik, Iceland.
- 2002 A.W. Bergen, M.B.M. van den Bree, M. Yeager, J.K. Ganjei, R. Welch, K. Haque, S. Bacanu, D.E. Grice, W.H. Berrettini, C. Bulik, K. Klump, M. Fichter, K. Halmi, A. Kaplan, M. Strober, J. Treasure, B. Woodside, W.H. Kaye. “HTR1D and OPRD1 SNPs exhibit significant association to anorexia nervosa”. 52nd Annual Meeting of the American Society of Human Genetics, Baltimore, MD. Abstract no. 1567.
- 2003 “DNA Quantification and Whole Genome Amplification”, Workshop on Specimen Processing for Molecular Epidemiology Studies, Rockville, MD.
- 2003 “Candidate Genes for Anorexia Nervosa in the 1p33-36 Linkage Region” Serotonin 1D and Delta Opioid Receptor Loci Exhibit Significant Association to Anorexia Nervosa”, Society for Biological Psychiatry 2003 Annual Meeting, San Francisco, CA.
- 2003 A.W. Bergen. “Technology Development at the Core Genotyping Facility, National Cancer Institute”, NCI Combined Intramural Principal Investigator Retreat, Chantilly, VA. Abstract no. C-4.
- 2003 A. W. Bergen, H. Sicotte, M. Beerman, L. Qi, B. Packer, B. Staats, A. Crenshaw, C. Glaser, S. Yadavalli, A. Hutchinson, E. Miller, R. Welch, M. Yeager, S. Chanock. “Design and Implementation of a Laboratory Information

Management System at the Core Genotyping Facility, Division of Cancer Epidemiology and Genetics, NCI”, 6th International Meeting on Single Nucleotide Polymorphism and Complex Genome Analysis, Chantilly, VA. Abstract no. 8.

JOURNAL ARTICLES:

1. Economou EP, Bergen AW, Warren AC, Antonarakis SE. The Polydeoxyadenylate Tract of *Alu* Repetitive Elements is Polymorphic in the Human Genome. *Proc Natl Acad Sci USA* 87: 2951-2954, 1990.
2. Scott AF, Elizaga A, Morrell J, Bergen A, Penno MB. Characterization of a Gene Coamplified with Kifras in Y1 Murine Adrenal Carcinoma cells that Codes for a Putative Membrane Protein. *Genomics* 20: 227-230, 1994.
3. Bergen A, Wang CY, Nakai B, Goldman D. Mass Allele Detection (MAD) of Rare 5-HT1_A Structural Variants with Allele-specific Amplification and Electrochemiluminescent Detection. *Hum Mutation* 7: 135-143, 1996.
4. Mazzanti CM, Bergen A, Enoch MA, Michelini S, Goldman D. Identification of a Ser857-Asn857 Substitution in DRK1 (KCNB1), Population Frequencies and Lack of Association to the Low Voltage Alpha EEG Trait. *Hum Genet* 98: 134-137, 1996.
5. Bergen AW, Kokoszka J, Peterson R, Long JC, Virkkunen M, Linnoila M, Goldman D. μ opioid Receptor Gene Variants: Lack of Association with Alcohol Dependence. *Mol Psych* 2: 490-494, 1997.
6. Pesonen U, Koulu M, Bergen A, Eggert M, Naukkarinen H, Virkkunen M, Linnoila M, Goldman D. Mutation Screening of the 5-hydroxytryptamine₇ Receptor Gene Among Finnish Alcoholics and Controls. *Psych Res* 77: 139-145. 1998.
7. Kittles RA, Perola M, Peltonen L, Bergen AW, Aragon RA, Virkkunen M, Linnoila M, Goldman D, Long JC. Dual Origins of Finns Revealed by Y Chromosome Haplotype Variation. *Am J Hum Genet* 62: 1171-1179, 1998.
8. Bergen AW, Pratt ML, Mehlman P, Goldman D. Evolution of RPS4Y. *Mol Bio Evol* 15:1412-1419, 1998.
9. Bergen AW, Wang CY, Tsai J, Jefferson K, Dey C, Smith KD, Park SC, Tsai SJ, Goldfarb L, Goldman D. RPS4Y Resequencing and Y Chromosome Microsatellite Haplotyping Identify an Asian Paternal Lineage. *Ann Hum Genet* 63: 63-80, 1999.

10. Karafet TM, Zegura SL, Posukh O, Osipova L, Bergen A, Long J, Goldman D, Klitz W, Harihara S, de Knijff P, Wiebe V, Griffiths RC, Templeton AR, Hammer MF. Ancestral Asian Source(s) of New World Y Chromosome Founder Haplotypes. *Am J Hum Genet* 64: 817-831, 1999.
11. Kittles RA, Bergen AW, Goldman D, Long JC. Autosomal, Mitochondrial, and Y Chromosome DNA Variation in Finland: Evidence for a Male-specific Bottleneck. *Am J Phys Anthropol* 108: 381-399, 1999.
12. Kittles RA, Long JC, Bergen AW, Eggert M, Virkkunen M, Linnoila M, Goldman D. Cladistic Association Analysis of Y Chromosome Effects on Alcohol Dependence and Related Personality Traits. *Proc Natl Acad Sci USA* 96: 4204-4209, 1999.
13. Korczak JF, Bergen AW, Goldstein AM, Weissbecker KA. [Sib-pair Linkage Analyses of Alcoholism: Dichotomous and Quantitative Measures.] In: Goldin L, Amos CI, Chase GA, Goldstein AM, Jarvik GP, Martinez MM, Suarez BK, Weeks DE, Wijsman EM, MacCluer JW. Genetic Analysis Workshop II: Analysis of Genetic and Environmental Factors in Common Diseases. *Genet Epidemiol* 17: S205-210, 1999.
14. Bergen AW, Korczak JF, Weissbecker KA, Goldstein AM. [A Genome-wide Search for Loci Contribution to Smoking and Alcoholism.] In: Goldin L, Amos CI, Chase GA, Goldstein AM, Jarvik GP, Martinez MM, Suarez BK, Weeks DE, Wijsman EM, MacCluer JW. Genetic Analysis Workshop II: Analysis of Genetic and Environmental Factors in Common Diseases. *Genet Epidemiol* 17: S55-60, 1999.
15. Rotondo A, Schuebel KE, Bergen AW, Aragon R, Virkkunen M, Linnoila M, Goldman D, Nielsen DA. Identification of Four Variants in the Tryptophan Hydroxylase Promoter and Association to Behavior. *Mol Psych* 4: 360-368, 1999.
16. Tozzi F, Bergen AW, Bulik CM. Candidate Gene Studies in Eating Disorders. *Psychopharmacol Bull* 36: 60-90, 2002.
17. Bulik CM, Devlin B, Bacanu SA, Thornton L, Klump KL, Fichter MM, Halmi KA, Kaplan AS, Strober M, Woodside DB, Bergen AW, Ganjei JK, Crow S, Mitchell J, Rotondo A, Mauri M, Cassano G, Keel P, Berrettini WH, Kaye WH. Significant Linkage on Chromosome 10p in Families with Bulimia Nervosa. *Am J Hum Genet* 72: 200-207, 2003.
18. Bergen AW, van den Bree MBM, Yeager M, Welch R, Ganjei JK, Haque K, Bacanu S, Grice DE, Berrettini WH, Goldman D, Bulik C, Klump K, Fichter M, Halmi K, Kaplan A, Strober M, Treasure J, Woodside B, Kaye WH. Candidate Genes for Anorexia Nervosa in the 1p33-36 Linkage

- Region: Serotonin 1D and Delta Opioid Receptor Loci Exhibit Significant Association to Anorexia Nervosa. *Mol Psych* 8: 397-406, 2003.
19. Bergen AW, Yeager R, Ganjei JK, Deep-Soboslay A, Haque K, van den Bree MB, Goldman D, Berrettini WH, Kaye WH; The Price Foundation Collaborative Group. Candidate Gene Analysis of the Price Foundation Anorexia Nervosa Affected Relative Pair Dataset. *Curr Drug Target CNS Nerol Disord* 2(1): 41-51, 2003.
 20. Bergen AW, Yang X, Bai Y, Beerman M, Goldstein AM, Goldin LR. Genomic Regions Linkes to Alcohol Consumption in the Framingham Heart Study. *BMC Genet*, In Press.
 21. Saccone R, Goldstein AM, Beerman AW. Genetic Analysis Workshop 13: Summary of Analyses of Alcohol and Cigarette Use Phenotypes in the Framingham Heart Study. *Genet Epid* 25(1): S90-97, 2003.
 22. Haque KA, Beerman, MB, Pfeiffer RM, Struewing JP, Chanock SJ, Bergen AW. Performance of High-Throughput DNA Quantification Methods. *BMC Biotechnol* 28:3(1): 20, 2003.
 23. Hughes AL, Packer B, Welch R, Bergen AW, Chanock SJ, Yeager M. Widespread Purifying Selection at Polymorphic Sites in Human Protein-coding Loci. *Proc Natl Acad Sci USA* 100(26): 15754,15757, 2003.
 24. Packer BR, Yeager M, Staats B, Welch R, Crenshaw A, Kiley M, Eckert A, Beerman M, Miller E, Bergen A, Rothman N, Strausberg R, Chanock SJ. SNP500Cancer: A Public Resource for Sequence Validation and Assay Development for Genetic Variation in Candidate Genes. *Nuc Acids Res* 32:D528-D532, 2004.
 25. Bergen AW, Haque KA, Beerman MB, Qi Y, Garcia-Closas M, Rothman N, Chanock SJ. Comparison of Yield and Genotyping Performance of wgaDNA Generated by Multiple Displacement Amplification and OmniplexTM Whole Genome Amplification from Multiple DNA Sources. *Genome Res*, In submission, 2004.
 26. Bergen AW, Yeager R, Welch R, Haque K, Ganjei JK, Mazzanti C, Nardi I, van den Bree MBM, Bacanu SA, Fichter M, Halmi K, Kaplan A, Strober J, Treasure J, Woodside B, Bulik CM, Devlin B, Berrettini W, Goldman D, Kaye. Association of the DRD2-141 indel Polymorphism with Anorexia Nervosa. In Submission, 2004.

PEER-REVIEWED REVIEWS:

1. Bergen AW, Caporaso N. Cigarette Smoking. *J Natl Cancer Inst* 91(16): 6-16, 1999.
2. Tozzi F, Bergen AW, Bulik CM. Candidate Gene Studies in Eating Disorders. *Psychopharmacol Bull* 36: 60-90, 2002.

COMMENTARIES AND INVITED REVIEWS:

1. Goldman D, Bergen AW. General and Specific Inheritance of Substance Abuse and Alcoholism. *Arch Gen Psych* 55: 964-965, 1998.
2. Bergen AW, Yeager M, Welch R, Ganjei JK, Deep-Soboslay A, Haque K, van den Bree, MBM, Goldman D, Berrettini WH, Kaye WH; The Price Foundation Collaborative Group. Candidate Gene Analysis of the Price Foundation Anorexia Nervosa Affected Relative Pair Dataset. *Curr Drug Targets* 2: 41-51, 2003.